CLAIMS

[Claim(s)]

[Claim 1] It is the management method of the image file constituted with the dynamic-image data with which each image file is stored on a record medium, and contains the coding (I-picture) data in a frame at the beginning of a ** frame, respectively. 1 in each ************** which expresses the contents of each aforementioned image file typically, or two or more coded data in said frame are chosen beforehand. The management method of the image file characterized by adding this selected coded data in a frame to the head of each ************** as an administrative header.

[Claim 2] It is the management method of the image file constituted with the dynamic-image data with which each image file is stored on a record medium, and contains the coding (I-picture) data in a frame at the beginning of a ** frame, respectively. 1 in each ************** which expresses the contents of each aforementioned image file typically, or two or more coded data in said frame are chosen beforehand. Add the positional information showing the location within the image file concerned of this selected coded data in a frame to the head of each ************** as an administrative header, and it is being begun to read this positional information one by one. The management method of the image file characterized by reproducing the coded data in a frame as which the corresponding above was chosen.

[Claim 3] It is the management method of the image file constituted with the dynamic-image data with which each image file is stored on a record medium, and contains the coding (I-picture) data in a frame at the beginning of a ** frame, respectively. 1 in each ************** which expresses the contents of each aforementioned image file typically, or two or more coded data in said frame are chosen beforehand. The management method of the image file characterized by displaying this

selected coded data in a frame on the index file formed on said record medium collectively about said all image files.

[Claim 4] It is the management method of the image file constituted with the dynamic-image data with which each image file is stored on a record medium, and contains the coding (I-picture) data in a frame at the beginning of a ** frame, respectively. 1 in each ************** which expresses the contents of each aforementioned image file typically, or two or more coded data in said frame are chosen beforehand. This coded data in a frame chosen about said all image files, Displaying the positional information showing the location within each ************** on the index file formed on said record medium collectively, and beginning to read this positional information in this index file one by one The management method of the image file characterized by carrying out sequential playback of the coded data in a frame as which the corresponding above was chosen.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to the management method of the image file constituted with the dynamic-image data with which the management method of an image file, especially each image file are stored on record media, such as a hard disk, and contain the coding (Intra-picture and I-picture are called) data in a frame at the beginning of a ** frame, respectively.

[0002] When recording digitized dynamic-image data to record media, such as a hard disk, generally writing the dynamic-image data which generally performed the data compression, i.e., high efficiency coding, in the record medium from the access rate and memory capacity having constraint is performed. There is a coding technique (Interframe coding) which used inter-frame correlation for the thing typical as the data compression technique now. However, although it becomes a problem neither in transient TV conference communications nor TV telephone communication when adopting this coding technique, an inconvenient problem arises in the image system of are recording systems, such as the above-mentioned hard disk. difference contiguity inter-frame [problem / this] in the above-mentioned coding technique -- since data are made into image data, it is in a difficult point to reproduce a former image into the part of the arbitration on a record medium as it is freely.

[0003] So, in the image system of the are recording system between which such a

record medium was made to be placed, writing the above-mentioned coding (I-picture) data in a frame in a number of frames or ** of each frame which is the base unit of image data is performed. therefore, difference with playback of a former image difficult for most image data -- although it is data, if I-picture inserted in a number of frames or ** is accessed, a former image can be seen as a still picture as it is by the coded data in the frame.

[0004] thus -- the are recording system image system by the interframe coding method -- the above-mentioned coded data in a frame -- using -- the so-called rapid-traverse playback -- return playback is already enabled.

[0005]

[Description of the Prior Art] Drawing 7 is drawing showing an example of common inter-frame coding equipment. However, the example of this Fig. shows the example of a motion compensation predicting-coding method. In this Fig., a reference number 1 is a subtractor, considers former image (raw image) data ("input" in drawing) as one input, and receives the image data of the front frame from the adjustable delay machine 5 to the input of another side. and the difference of both inputs -- data are quantized with a quantizer 2 and it outputs to the exteriors (hard disk etc.) with the below-mentioned "motion vector" data as prediction error data.

[0006] On the other hand, the output of a quantizer 2 is inputted into an adder 3, is added with the image data of a front frame here, serves as image data of the present frame, and is once stored in a frame memory 4. The frame image data stored in the frame memory 4 is inputted into the motion compensation prediction section 6, and a motion (four directions) of an image is detected here and it is inputted into the adjustable delay machine 5 as a "motion vector." thus, difference with the image data if it carries out, before being computed in a subtractor 1 -- an amount decreases sharply and can attain high efficiency coding. This "motion vector" is outputted outside as above-mentioned.

[0007] By the way, the coded data in a frame especially related to this invention is obtained in the inter-frame coding equipment of drawing 7 as prediction incorrect presenting force when switching a selector 7 to "0" data side in drawing. If "0" data are chosen, the input at that time will be quantized as it is, and the output of a subtractor 1 will be taken out outside as this prediction incorrect presenting force. This serves as coded data in a frame.

[0008] Drawing 8 is drawing which expresses general uni-directional prediction in illustration, an axis of abscissa is time amount (t), and the line of two or more length expresses two or more field image data which constitutes each frame. That is, "P" in

drawing is a uni-directional predicting-coding frame (Prediction-picture), respectively, and is ** in drawing, **, and **. -- It generates in order. The coded data in a frame (aforementioned I-picture) which was shown by "I" among drawing and which is inserted by about 1 fixed cycle is related to especially this invention, and it is convenient for random access (random playback). because -- here -- difference with a front frame -- it is because not data but the data which express a former image as it is are written in. However, it is a still picture.

[0009] Drawing 9 is drawing showing the case where general both-directions prediction and uni-directional prediction are used together. The both-directions predicting-coding frame (Bidirectional predictive-picture) shown by "B" among drawing compared with drawing 8 is added further. The sequence of prediction is as being shown in ** [in drawing], **, and **--. Also in this Fig., the coded data in a frame is related to especially this invention. In addition, predicting coding expressed to this Fig. is an effective approach when the contents of the screen change suddenly.

[0010] Drawing 10 is drawing showing the example of a data array in a series of image files. For example, two or more various image files stored on record media, such as a hard disk, are arranged perpendicularly, and are shown. The semantics of "I" in each column in drawing, "P", and "B" is as above-mentioned. it is shown in drawing 10 stored in record media, such as a hard disk, -- the time of choosing one of the requests and reproducing out of the image file of the time plurality, -- the middle of an image file -- accessing -- difference -- even if it reads "P" and "B" which are data -- these -- mere difference -- it is data, a former image-is not expressed and the contents of the image file cannot be specified for a user. Now, a desired image file cannot be reproduced quickly but it is very inconvenient.

[0011]

[Problem(s) to be Solved by the Invention] The method of specifying each image file is very intelligible for him who attached the title (only a regular-file name chisel may add but the title which expresses the contents of each image file directly). however, the him -- for the person of an except, getting to know the contents correctly only with the title which was alike, respectively and was added out of many image files has the problem that it is impossible and a desired image file can hardly be searched quickly after all.

[0012] This invention aims at everyone's proposing the management method of an image file it enabled it to search quickly [a request / one] out of the image file of a large number stored on the record medium in view of the above-mentioned trouble.

[0013]

[Means for Solving the Problem] This invention extracts the positional information

within the image file concerned which chooses beforehand 1 in each image file or two or more coded data in a frame which express the contents of each image file typically, and expresses this coded data in a frame by which (1) selection was made, or (2) above (1).

[0014] (a) Add above (1) or (2) to the head of each ************** as an administrative header, or manage so that (b) above (1) or (2) may be collectively displayed on an index file.

[0015]

[Function] In each image file, some coded data in a frame are surely contained periodically, moreover, the coded data in the frame can display some former images on a user possible [accepting reality], and everyone can see the contents of the image file concerned as a picture.

[0016] Therefore, the user who searchs an image file group can judge extremely whether it is a desired file to the inside of a short time.

[0017]

[Example] Drawing 1 is drawing showing the 1st mode of this invention. The management method of the image file by this invention is a management method of the image file constituted with the dynamic-image data with which each image file is stored on a record medium, and contains the coding (I-picture) data in a frame in a number of frames or ** periodically, and chooses beforehand 1 in each image file or two or more coded data in a frame which express the contents of each image file typically in the 1st mode of this Fig. And the selected coded data in a frame is added to the head of each image file as an administrative header.

[0018] As shown in this Fig., one chosen as a representative, two or more coded data I1 in a frame, or I1 and I2 are added to the head of the image file data which makes each image file A and B--Z. In addition, the title from the former may be added to the pan of I1 and I2 which were chosen as an above representative at the head.

[0019] If the head of each image file is pulled out in this way so that it may be usual, the typical picture which expresses the contents of the file immediately after that can be seen, and it can search quickly with the feeling which turns over the page of a book. This is common to each following mode. Drawing 2 is drawing showing the 2nd mode of this invention. Although 1 in each image file or two or more coded data in a frame which express the contents of each image file also with the 2nd mode of this Fig. typically first are chosen beforehand, the positional information which expresses the location within the image file concerned of the selected coded data in a frame after this is added to the head of each image file as an administrative header.

[0020] The selected coded data in a frame which is furthermore beginning to read the

positional information one by one, and corresponds is reproduced. In this Fig., the positional information is shown as the pointer (pointer), Ip1 and Ip2, which specifies the location of the coded data in the frame concerned. [i.e.,] the byte count which it has chiefly as an administrative header in the 1st mode (drawing 1) -- 1 or several frames -- and it is huge.

[0021] Then, as the 2nd mode, only the address information indicating the representation frame is set at the head of an image frame, and saving of the record area which an administrative header takes is aimed at. Drawing 3 is drawing showing the 3rd mode of this invention. Although 1 in each image file or two or more coded data in a frame which express the contents of each image file also with the 3rd mode of this Fig. typically first are chosen beforehand, the coded data in a frame chosen about all image files after this is collectively displayed on the index file formed on the record medium.

[0022] If it does in this way, an index file can be used like the table of contents of a book, and since it is displayed with a picture one by one [table of contents / the], moreover, a very quick search can be performed. Drawing 4 is drawing showing the 4th mode of this invention. Although 1 in each image file or two or more coded data in a frame which express the contents of each image file also with the 4th mode of this Fig. typically first are chosen beforehand The coded data in a frame chosen about all image files after this, Sequential playback of the corresponding, selected coded data in a frame is carried out summarizing the positional information showing the location within each image file to the index file formed on that record medium, managing it, and beginning to read the positional information in this index file one by one.

[0023] This 4th mode is equivalent to what applied the 3rd mode of the above to the 2nd above-mentioned mode, and can reduce the memory space of an index file sharply. It is drawing used in order that drawing 5 may explain actuation of this invention based on drawing 4 , and drawing 6 is a flow chart for explaining the example of operation in the case of drawing 5 . With reference to drawing 5 and drawing 6 , the contents of the index file are explained first. Image files A and B and --Z are the fields of 16 Byte each immobilization, and several m (4Byte) of Ip following a file name (12Byte) and a degree is written in each field. For example, image file A of drawing 5 is m= 2, and Z is m= 1. Moreover, Ip is the field of four Byte each immobilization, and the pointer (address) from the head of the file of I-picture (coded data in a frame) which should be displayed is written. In drawing 5 , the number of the m 2 is written to be a file name (filename) of SCENE-A to image file A. 0H and 2345H (hexadecimal display) are written to Ip following this. 1234H and 2400H are written to Ip by which SCENE-B

and m= 2 follow image file B similarly. 56H are written to Ip by which SCENE-Z and m= 1 follow image file Z.

[0024] Next, the method of access is explained. First, CPU (CPU in the personal computer which controls a hard disk) goes to read an index file, and reads SCENE-A, m= 2, and 0H and 2345H (step S1 of drawing 6 , and S2 reference). Next, based on this read-out information, it goes to access a file "SCENE-A", and the data for one frame which begins from address 0H, and the data for one frame which begins from 2345H are displayed on the display of this personal computer through the decoder in read-out and the above-mentioned personal computer (step S3 reference of drawing 6). Hereafter, even SCENE-B-SCENE-Z is displayed similarly.

[0025] Thus, based on the information written to the index file, the outline of each image data can be quickly displayed on a display by reading the information in a desired image file out of many image files.

[0026]

[Effect of the Invention] As explained above, the image file of a large number which were stored in the hard disk etc. in the image system which accumulates the difference of inter-frame image data according to this invention can be searched quickly, and a request is [one] quick and it can reproduce.

[Translation done.]

CLAIMS

[Claim(s)]

[Claim 1] To record media, such as a video tape which recorded two or more software,
or a videodisk It is the record medium with table-of-contents information which
recorded the table-of-contents information corresponding to said two or more software.
While carrying out continuation record [ultrashort time amount] in the part which
compresses the table-of-contents screen information corresponding to said two or more
software, respectively, bundles up as child screen information for the 1 field in all, and
said record medium begins, the last part, or a proper location The record medium with
table-of-contents information characterized by having switched the table-of-contents
speech information corresponding to said two or more software in order of software,
having carried out sequential record together with said child screen information, and
forming the index information of the whole.

[Claim 2] To record media, such as a video tape which recorded two or more software,
or a videodisk It is the record medium with table-of-contents information which
recorded the table-of-contents information corresponding to said two or more software.
While distributing, respectively into the part which compresses the table-of-contents
screen information corresponding to said two or more software, respectively, bundles up
as child screen information for the 1 field in all, and each software in said record
medium begins, or the last part and carrying out continuation record [ultrashort time
amount] The record medium with table-of-contents information characterized by
having recorded together with the child screen information which recorded only the
table-of-contents speech information cried with one corresponding software in one voice
among the table-of-contents speech information corresponding to said two or more
software on one software, and forming the index information of distributed for every

software.

[Claim 3] The record medium with table-of-contents information characterized by adding and recording the text which shows a software number to each child screen of said child screen information in claim 1 publication and a record medium with table-of-contents information according to claim 2.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the record medium with table-of-contents information which recorded the table-of-contents screen information and table-of-contents speech information of the contents of recorded software on record media, such as a video tape on which sequential record of two or more software (a program, program) was carried out, or a videodisk, as table-of-contents information especially.

[0002]

[Description of the Prior Art] Record playback can be performed now by image quality good enough also in the so-called 3 time mode in which a part for 6 hour is recorded on videotape on the video tape for recent years, for example, two time records. It becomes possible to record two or more software (a program, program) on the video tape contained by one video tape cassette corresponding to this, and there is an image record regenerative apparatus indicated by JP,61-66278,A as a conventional technique in which the contents of recorded software of a video tape can be checked in such a case.

[0003] Drawing 15 is drawing having shown the video tape which recorded the conventional table-of-contents screen information.

[0004] As shown in drawing 15 , according to the conventional image record regenerative apparatus indicated by JP,61-66278,A A video tape (magnetic tape) T is used as a record medium, and two or more software (a program, program) P1 and P2 and ....Pn are recorded on this video tape T one by one. 1 field screen information P1-V1 which can become table-of-contents screen information, P2-V2, ..Pn-Vn are chosen from the recorded software P1 and P2 of these plurality, and ....Pn for every software, respectively. Compress 1 field screen information P1-V1 for each [these] software of every, P2-V2, ...Pn-Vn, respectively, and it changes into child screen information P1-K1 for the 1 field, P2-K2, ..Pn-Kn in all. After memorizing this child

screen information P1-K1, P2-K2, ...Pn-Kn to video-signal memory block, It records [from video-signal memory block] on the start edge of a video tape T continuously for several seconds to dozens seconds by making child screen information P1-K1, P2-K2, ...Pn-Kn into table-of-contents screen information. Furthermore, the table-of-contents screen information recorded on the start edge of this video tape T is reproduced. It is constituted so that two or more recorded software P1 and P2 recorded on the long picture video tape T and the contents of ....Pn may be put in block by child screen information P1-K1 for the 1 field, P2-K2, and the table-of-contents screen information that consists of ..Pn-Kn and can be checked in the state of a still picture on a monitor.

[0005]

[Problem(s) to be Solved by the Invention] by the way, the video tape T which recorded the conventional table-of-contents screen information with an image record regenerative apparatus which was described above records only table-of-contents screen information (video information) among two or more recorded software P1 and P2 and the contents of ....Pn -- **** -- it does not pass, but since it is not recorded, in case the speech information (audio information) accompanying these checks the contents of desired recorded software, it lacks force more. Moreover, with the above-mentioned conventional technique, since table-of-contents screen information cannot be checked unless it returns to the head of the long picture surely video tape T, since table-of-contents screen information is recorded only on the start edge of a video tape T, when the video tape T is standing by the middle especially in the location, or in completing playback of desired software and searching the software of the next request, there is a fault of being unable to check table-of-contents screen information immediately.

[0006] Furthermore, although illustration is omitted, in the videodisk driving gear using the videodisk as a record medium, two or more software recorded on the videodisk is reproduced by the optical pickup, and random access becomes possible in an instant by moving an optical pickup in the direction of a path of a videodisk here at a high speed. However, also in the videodisk in which rapid access is possible, although there are some which are recording the guidance information corresponding to two or more software, the music name information corresponding to two or more software, etc. as table-of-contents information near the lead-in groove area of a videodisk, since most table-of-contents information recorded on the videodisk is only text, the contents of each software cannot be grasped in detail collectively, but the user senses inconvenience.

[0007]

[Means for Solving the Problem] This invention is made in view of the above-mentioned technical problem. The 1st invention To record media, such as a video tape which recorded two or more software, or a videodisk It is the record medium with table-of-contents information which recorded the table-of-contents information corresponding to said two or more software. While carrying out continuation record [ultrashort time amount] in the part which compresses the table-of-contents screen information corresponding to said two or more software, respectively, bundles up as child screen information for the 1 field in all, and said record medium begins, the last part, or a proper location It is the record medium with table-of-contents information characterized by having switched the table-of-contents speech information corresponding to said two or more software in order of software, having carried out sequential record together with said child screen information, and forming the index information of the whole.

[0008] The 2nd invention to moreover, record media, such as a video tape which recorded two or more software, or a videodisk It is the record medium with table-of-contents information which recorded the table-of-contents information corresponding to said two or more software. While distributing, respectively into the part which compresses the table-of-contents screen information corresponding to said two or more software, respectively, bundles up as child screen information for the 1 field in all, and each software in said record medium begins, or the last part and carrying out continuation record [ultrashort time amount] It is the record medium with table-of-contents information characterized by having recorded together with the child screen information which recorded only the table-of-contents speech information cried with one corresponding software in one voice among the table-of-contents speech information corresponding to said two or more software on one software, and forming the index information of distributed for every software.

[0009] Furthermore, the 3rd invention is a record medium with table-of-contents information characterized by adding and recording the text which shows a software number to each child screen of said child screen information in the 1st and the record medium with table-of-contents information of the 2nd invention.

[0010]

[Example] One example of the record medium with table-of-contents information concerning this invention is explained with reference to drawing 1 thru/or drawing 14 below at a detail in order of <the 1st example>, the <2nd example>, and the <3rd example>.

[0011] The block diagram having shown the table-of-contents information record regenerative apparatus for <1st example> drawing 1 to create the record medium with table-of-contents information of the 1st example concerning this invention, Drawing having shown the record medium with table-of-contents information of the 1st example concerning this invention in drawing 2 , Drawing having shown the condition that drawing 3 memorized child screen information in the picture Inn picture memory shown in drawing 1 , drawing having shown the condition that drawing 4 memorized table-of-contents speech information in the voice memory shown in drawing 1 , and drawing 5 are set to the record medium with table-of-contents information of the 1st example. In the record medium with table-of-contents information of the 1st example, the flow chart for explaining the actuation which records the index information of the whole used as an important section on a video tape, and drawing 6 are drawing for explaining the condition of having displayed on Monitor TV, after recording the index information of the whole used as an important section on a video tape.

[0012] The table-of-contents information record regenerative apparatus for creating the record medium with table-of-contents information of the 1st example concerning this invention and the record medium with table-of-contents information of this 1st example is explained using drawing 1 thru/or drawing 2 .

[0013] In drawing 1 and drawing 2 , as for the record medium with table-of-contents information of the 1st example, the video tape (magnetic tape) T is applied as a record medium. moreover, in the table-of-contents information record regenerative apparatus 1 for creating the video tape T with table-of-contents information of the 1st example The lamp 2 for detecting the transparent reader tapes R1 and R2 connected near the termination near the start edge of a video tape T in accordance with the transit path of a video tape T, and the phot sensor 3, The control head 10 which records various kinds of control signals on the control truck C of a video tape T, In order to record two or more software (a program, program) P1 and P2 and ....Pn on a video tape T, the video head 20 and the audio head 40 which were carried in the rotating drum (not shown) are installed in the position, respectively.

[0014] moreover, after a lamp 2 and the phot sensor 3 detect the transparent reader tapes R1 and R2 connected near the termination near the start edge of a video tape T The start edge mute section S0 (or the termination mute section E) is formed for [dozens of seconds -] several minutes near the start edge (termination near [or]) of a video tape T of the start edge and the termination mute creation section 4. The index information M0 of the whole later mentioned in these start edge mute sections S0 (or the termination mute section E) can be recorded now. In addition, the start edge mute

section S0 and the termination mute section E should just be the die length which can record the index information M0 of the whole. Moreover, what is necessary is to explain the case where the index information M0 of the whole is recorded on the start edge mute section S0 of a video tape T, and just to carry out similarly in the following explanation, in recording on the termination mute section E.

[0015] Moreover, sequential record of two or more software P1 and P2 and the ....Pn is carried out after the start edge mute section S0 formed near the start edge of a video tape T. The software P1 and P2 of these plurality, and among ....Pn(s), screen information is inputted into the video recording system 22 through contact 23a of a switch 23 from the video input terminal 24, and is recorded on the surface section of a video tape T by the video head 20 which it was processed here and carried in the rotating drum (not shown) through REC side contact 21a of a switch 21. On the other hand, two or more software P1 and P2 and among ....Pn(s), speech information is inputted into the audio recording system 42 through contact 43a of a switch 43 from the audio input terminal 44, and is recorded on the depths section of a video tape T together with screen information by the audio head 40 which it was processed here and carried in the rotating drum (not shown) through REC side contact 41a of a switch 41. In addition, the speech information inputted from the screen information and the audio input terminal 44 which are inputted from the video input terminal 24 divides into screen information and speech information the signal inputted into other visual equipments or TV tuners etc. In addition, although two or more software P1 and P2, and the screen information and speech information of ....Pn are separated and recorded in the 1st example, there is not only this but a configuration which carries out frequency multiplex [of screen information and the speech information], and is recorded by the audio video combination head.

[0016] Furthermore, at the same time it records two or more software P1 and P2 and ....Pn Corresponding to two or more software P1 and P2 and ....Pn, the image transcription start signals C1 and C2 and the VISS (Video Index Search System) signal which consists of ..Cn are generated from the retrieval signal generator 13 in the start location of each software. These image transcription start signals C1 and C2 and ....Cn are recorded on the control truck C of a video tape T by the control head 10 through contact 12a of a switch 12, and REC side contact 11a of a switch 11. Moreover, each image transcription start signals C1 and C2 and the control signal (not shown) generated from the control signal generator 14 following ....Cn are recorded on the control truck C of a video tape T by the control head 10 through contact 12b of a switch 12, and REC side contact 11a of a switch 11.

[0017] The above-mentioned image transcription start signals C1 and C2 and ....Cn are the detecting signals at the time of pushing search ** 17 at the time of playback of a video tape T, and searching each software at a high speed by the high-speed search section 16, the above-mentioned control signal (not shown) is a control signal for controlling tape transit by the tape transit control section 18 at the time of playback of a video tape T, and these signals are formed of the predetermined duty ratio based on the reference signal (not shown), respectively. In addition, VASS which replaces with the image transcription start signals C1 and C2 and the VISS signal (Video Index Search System) which consists of ....Cn, and records a number absolutely (Video Address SearchSystem) A signal may be recorded by the control head 10.

[0018] Here, drawing 1 thru/or drawing 4 are used together and explained about the configuration member by the side of the equipment 1 for recording two or more software P1 and P2 recorded on the video tape T, and the index information M0 of the whole which serves as an important section of the 1st example corresponding to ....Pn near the start edge of a video tape T.

[0019] First, in drawing 1 and drawing 2 , screen information is read by the video head 20 two or more software P1 and P2 recorded on the video tape T, and among ....Pn(s), and it is processed by the video reversion system 25 through PB side contact 21b of a switch 21. In the time of the usual playback, it is outputted to the display (not shown) of Monitor TV through contact 26a of a switch 26, and the video outlet terminal 27 from the video reversion system 25. moreover, in choosing each software P1 and P2 and the table-of-contents screen information corresponding to ..Pn from two or more software P1 and P2 recorded on the video tape T, ...Pn as table-of-contents information Reproduce two or more software P1 and P2 and in order of ....Pn, and the screen information of one software Pn (n= 1, 2, .. n) processed by the video reversion system 25 is changed into a digital signal from an analog signal by A/D converter 28. If the table-of-contents information selector button 50 is pushed here, 1 field screen information Pn-Vn (n= 1, 2, ... n) which can serve as table-of-contents screen information corresponding to one software Pn will be chosen, and selected 1 field screen information Pn-Vn will be temporarily memorized by the field memory 29. And 1 field screen information Pn-Vn memorized by the field memory 29 is changed into an analog signal by D/A converter 30, and is outputted to Monitor TV (not shown) from the video outlet terminal 27 through contact 26b of a switch 26. Here, it judges whether it is the screen where selected 1 field screen information Pn-Vn is the optimal as table-of-contents screen information corresponding to one software Pn, and, in the case of a defect, good table-of-contents screen information can be chosen now by operating

again the table-of-contents information selector button 50. Furthermore, when 1 field screen information Pn-Vn memorized by the field memory 29 judges that it is a good screen, 1 field screen information Pn-Vn is compressed by the compression circuit 31, and the location of the address address n (n= 1, 2, .. n) in the picture Inn picture memory (it is hereafter described as PinP memory) 32 is made to memorize as child (thinning out) screen information Pn-Kn (n= 1, 2, ... n). Under the present circumstances, the field memory 29 is carrying out the sequential transfer at the PinP memory 32 side, updating each software P1 and P2, 1 field screen information P1-V1 which were chosen for every ....Pn, P2-V2, and in order of ..Pn-Vn.

[0020] moreover, child screen information P1-K1 compressed from two or more recorded software P1 and P2 and ....Pn as the above-mentioned PinP memory 32 has only the storage capacity which can memorize the screen information for the 1 field by one sheet and it was shown in <u>drawing 3</u> and P2- K2 and ..Pn-Kn -- it is managed by the address Management Department which an address address is divided and does not illustrate so that it may all come out and may memorize to a part for the 1 field. Under the present circumstances, division of the address address in the PinP memory 32 If a video tape T is returned to the start edge and search ** 17 is pushed before choosing table-of-contents information A video tape T runs at a high speed by the command of the high-speed search section 16, and the image transcription start signals C1 and C2 recorded on the control truck C of a video tape T by the control head 10 and ....Cn are read one by one. The number of partitions can be set up now by carrying out counting with these image transcription start signals C1 and C2 and the counter which does not illustrate the number of ....Cn(s).

[0021] Then, if the table-of-contents information recording button 60 is operated, they will be collectively called by child screen information P1-K1 for the 1 field, P2-K2, ...Pn-Kn by all that were memorized in the PinP memory 32. It is changed into an analog signal from a digital signal by D/A converter 33. And adder 35 is taken so that the text 1 and 2 which shows a software number, and ....n can display from a character generator 34 corresponding to child screen information P1-K1, P2-K2, ..Pn-Kn. The text 1 and 2 which shows child screen information P1-K1, P2-K2, ...Pn-Kn, and a software number, and ..n are inputted into the video recording system 22 through contact 23b of a switch 23. It can record now on the start edge mute section S0 of a video tape T by the video head 20 by making into table-of-contents screen information the text 1 and 2 which shows child screen information P1-K1, P2-K2, ...Pn-Kn, and a software number here, and ..n. Under the present circumstances, the text 1 and 2 which shows a software number, and ....n are recording

[blinking a software number and] only the child screen which recorded table-of-contents speech information together with the actuation which switches table-of-contents speech information P1-A1, P2-A2, ..Pn-An in order of software, and records them as mentioning later while being recorded [that it can display on each child screen, and].

[0022] Next, speech information is read to two or more recorded software P1 and P2, and playback and coincidence of ....Pn by the audio head 40, is processed by the audio reversion system 45 through PB side contact 41b of a switch 41, and is outputted to them through the audio output terminal 46 in the time of the usual playback to the loudspeaker (not shown) of Monitor TV from the audio reversion system 45. moreover, in choosing each software P1 and P2 and the table-of-contents speech information corresponding to ..Pn from two or more software P1 and P2 recorded on the video tape T, ...Pn as table-of-contents information The speech information corresponding to one software Pn (n= 1, 2, ... n) is processed by the audio reversion system 45, and is changed into a digital signal from an analog signal by A/D converter 47. If the table-of-contents information selector button 50 used in case table-of-contents screen information is chosen here is pushed Table-of-contents speech information Pn-An following 1 field screen information Pn-Vn chosen from one software Pn as table-of-contents screen information is chosen for [several seconds -] dozens of seconds. Selected table-of-contents speech information Pn-An (n= 1, 2, ... n) is memorized in the location of the address address n (n= 1, 2, .. n) with which the voice memory 48 was specified. Therefore, into the voice memory 48, the sequential storage of two or more recorded software P1 and P2, table-of-contents speech information P1-A1 for every software by which sequential selection was made from ....Pn, P2-A2, ..Pn-An is carried out. In addition, table-of-contents speech information Pn-An (n= 1, 2, ... n) does not necessarily need to choose the speech information following 1 field screen information Pn-Vn, and may be speech information with the intelligible contents of Software Pn.

[0023] As the above-mentioned voice memory 48 has only child screen information P1-K1 explained previously, P2-K2, ...Pn-Kn and two or more table-of-contents speech information P1-A1 corresponding, P2-A2, and the storage capacity that can memorize ..Pn-An for [several seconds -] dozens of seconds, respectively and it was shown in drawing 4 The voice memory 48 is made to carry out the sequential storage of two or more recorded software P1 and P2, two or more speech information P1-A1 which were chosen from ....Pn, P2-A2, ..Pn-An.

[0024] Then, at the same time it operates the table-of-contents information recording button 60, in order to record table-of-contents screen information on a video tape T

Speech information P1-A1 for every software memorized in the voice memory 48, P2-A2, ...Pn-An switch in order of software, and call appearance is carried out one by one. It is changed into an analog signal from a digital signal by D/A converter 49. It is inputted into the audio recording system 42 through contact 43b of a switch 43. It has come to be able to carry out the sequential record of speech information P1-A1, P2-A2, ...Pn-An by the audio head 40 in order of software together with table-of-contents screen information here at the start edge mute section S0 of a video tape T.

[0025] therefore, in the start edge mute section S0 of the video tape T of the 1st example The text 1 and 2 which shows child screen information P1-K1, P2-K2, ...Pn-Kn, and the software number for the 1 field in all, and ..n are recorded on the surface section of a video tape T by continuation for [dozens of seconds -] several minutes as table-of-contents screen information. A2 and ....Pn-An switch to the depths section of a video tape T in order of software, and every [during dozens of several second - seconds] sequential storage is carried out, respectively. on the other hand -- table-of-contents screen information -- together -- table-of-contents speech information P1-A1 for every software, and P2- It cries [table-of-contents screen information and / table-of-contents] in one voice, and is recorded as index information M0 of the whole. Therefore, the chart lasting time of table-of-contents screen information and the sum total chart lasting time of each table-of-contents speech information recorded in order of software are carrying out abbreviation coincidence.

[0026] Here, the concrete actuation which cries [table-of-contents screen information and / table-of-contents] in one voice, and records the index information M0 of the whole on the start edge mute section S0 of a video tape T is explained with a flow chart (drawing 5) using drawing 6 .

[0027] As shown in drawing 5 , the table-of-contents information recording button 60 is first pushed at step 1. Next, at step 2, they are collectively called by child screen information P1-K1 for the 1 field, P2-K2, ...Pn-Kn by all that were memorized in the PinP memory 32. Child screen information P1-K1, P2-K2, ...Pn-Kn which were called at step 3, It is added by the adder 35 so that the text 1 and 2 which shows a software number, and ....n can display corresponding to child screen information P1-K1, P2-K2, ..Pn-Kn. Then, at step 4, the surface section of the start edge mute section S0 of a video tape T is followed by the video head 20, and the text 1 and 2 which shows child screen information P1-K1, P2-K2, ...Pn-Kn, and the software number for the 1 field in all, and ..n are recorded. Under the present circumstances, text 1 and 2 and ....n record [blinking a software number and] only the child screen which recorded

table-of-contents speech information together with table-of-contents speech information P1-A1, P2-A2, and the actuation that switches ..Pn-An in order of software, and records it.

[0028] Index speech information Pof things1-A1 corresponding to the 1st software P1 (the 1st child screen information P1-K1) is called among table-of-contents speech information P1-A1 for every software memorized in the voice memory 48 at step 5 together with step 2 on the other hand, P2-A2, ...Pn-An. It records [after that / at step 6] on the depths section of the start edge mute section S0 of a video tape T for [several seconds -] dozens of seconds by the audio head 40 together with table-of-contents screen information. Next, like the above, at step 7, index speech information Pof things2-A2 corresponding to the 2nd software P2 (the 2nd child screen information P2-K2) are called, and it records on a video tape T for [several seconds -] dozens of seconds after after the 1st table-of-contents speech information P1-A1 recorded on the video tape T. Hereafter, repeatedly, at step 8, table-of-contents speech information Pn-An corresponding to the software Pn (child screen information Pn-Kn of the n-th last) of the n-th last is called, and it records on a video tape T for [several seconds -] dozens of seconds similarly. And record of table-of-contents screen information is also ended, and it cries [table-of-contents screen information and / table-of-contents] in one voice here, and is recorded on the start edge mute section S0 of a video tape T as index information M0 of the whole at the same time record of table-of-contents speech information Pn-An of the n-th last is completed.

[0029] Therefore, if the index information M0 of the whole recorded on the start edge mute section S of the video tape T of the 1st example is reproduced as shown in drawing 6 Child screen information P1-K1 for the 1 field, P2-K2, ...Pn-Kn are continuously displayed on the display of Monitor TV in the state of a still picture in all. And table-of-contents speech information P1-A1, P2-A2, ...Pn-An switch in order of software, and sequential playback is carried out from the loudspeaker of Monitor TV. Furthermore, a software number is displayed in the state of flashing, and only table-of-contents speech information P1-A1, P2-A2, and the child screen where ....Pn-An was reproduced are displayed, without a software number blinking the child screen part by which table-of-contents speech information is not reproduced.

[0030] Here, if either is inputted among the numbers 1 and 2 which show a software number, and ....N and search ** 17 is pushed, the software of a software number inputted by the high-speed search section 16 can be searched at a high speed.

[0031] Since the index information M0 of the whole table-of-contents screen information and that it cried [table-of-contents] in one voice was collectively recorded

on the part (or last part) which a video tape T begins according to the record medium with table-of-contents information of the 1st example constituted as mentioned above When a video tape T is played, the contents of two or more software are put in block by the child screen information for the 1 field in all, and it can display on Monitor TV. And since table-of-contents speech information switches in order of software and is outputted from a loudspeaker, it becomes powerful table-of-contents information, and in case a user chooses desired software, he becomes very convenient. Moreover, when the video tape T which recorded the index information M0 of the whole is played, the contents of two or more software can be grasped with reference to the index information M0 of the whole in a short time. Moreover, the video tape T which recorded the index information M0 of the whole is reproducible with any magnetic recorder and reproducing devices. Furthermore, since a software number blinks only the child screen where a software number is displayed on the child screen information in the index information M0 of the whole recorded on the video tape T, and table-of-contents speech information is outputted, it is very convenient for selection of desired software.

[0032] Next, drawing 1 and drawing 7 are used together and the record medium with table-of-contents information which transformed a part of 1st example concerning this invention is explained simple.

[0033] Drawing 7 is drawing having shown the record medium with table-of-contents information which transformed a part of 1st example concerning this invention.

[0034] In drawing 1 and drawing 7 , a video tape T is used also for the record medium with table-of-contents information which transformed a part of 1st example. Here, it is characterized by distributing into each software P1 and P2 and the part (or last part) which ..Pn begins, respectively, and recording two or more software P1 and P2 recorded on the video tape T, the index information M1 and M2 of distributed corresponding to ....Pn, ..Mn on it.

[0035] namely, in case two or more software P1 and P2 and ....Pn are recorded on a video tape T Although the VISS (Video Index Search System) signal which becomes each software P1 and P2 and the start location of ....Pn from the image transcription start signals C1 and C2 and ..Cn by the retrieval signal generator 13 is recorded The mute sections S1 and S2 and ..Sn are formed in this **'s and others image transcription start signals C1 and C2, and the part which each software P1 and P2 of a video tape T and ..Pn begin by the mute creation section 19 corresponding to software based on ....Cn.

[0036] Here, two or more software P1 and P2 recorded on the video tape T, the index information M1 and M2 of distributed corresponding to ....Pn, ..Mn are distributed and

recorded on each software P1 and P2 of a video tape T, the mute sections S1 and S2 formed in the part which ..Pn begins, and ..Sn. Of course, the mute section may be formed in the part in each software P1 and P2 of a video tape T, and the end of ....Pn, and the index information M1 and M2 of distributed and ..Mn may be recorded on it.

[0037] For example, the 1st index information M1 of distributed corresponding to the 1st software P1 It is recorded on the surface section of the mute section S1 which n formed in the 1st software P1 for [several seconds -] dozens of seconds as table-of-contents screen information by continuation. it explained previously -- all -- coming out -- child screen information P1-K1 for the 1 field, P2-K2, and .... the text 1 and 2 which shows Pn-Kn and a software number, and .. The 1st table-of-contents speech information P1-A1 corresponding to the 1st software P1 is recorded on the depths section of the mute section S1 for [several seconds -] dozens of seconds together with table-of-contents screen information. Hereafter, repeat record actuation similarly and the index information Mn of distributed on the n-th last corresponding to the software Pn of the n-th last It is recorded on the text 1 and 2 which shows Pn-Kn and a software number, and the mute section Sn which ..n formed in the software Pn of the n-th last for [several seconds -] dozens of seconds as table-of-contents screen information. all -- coming out -- child screen information P1-K1 for the 1 field, P2-K2, and .... Table-of-contents speech information Pn-An of the n-th last corresponding to the software Pn of the n-th last is recorded for [several seconds -] dozens of seconds together with table-of-contents screen information.

[0038] Therefore, the chart lasting time of the table-of-contents screen information recorded for every software and the chart lasting time of the table-of-contents speech information recorded for every software are carrying out abbreviation coincidence. In addition, the index information M0 of the whole that it explained in the 1st example here may be recorded near the start edge (termination near [or]) of a video tape T.

[0039] According to the record medium with table-of-contents information which transformed a part of 1st example constituted as mentioned above Since it distributed into the part (or last part) which each software in a video tape T begins, respectively and the index information of distributed table-of-contents screen information and that it cried [table-of-contents] in one voice was recorded on it Since the index information of distributed following this ended software is immediately reproduced even when finishing reproducing desired software especially while being able to acquire the 1st example and the same effectiveness as abbreviation of having explained previously, it is very convenient in case the software of the next request is chosen. Moreover, even when the video tape T is standing by the middle in the location, the index information

of distributed on nearby can be reproduced immediately.

[0040] When <2nd example> drawing 8 explains the record medium with table-of-contents information of the 2nd example concerning this invention, Drawing having shown the condition of having memorized child screen information where the storage capacity of the picture Inn picture memory shown in drawing 1 is increased, Drawing and drawing 10 which showed the condition of having memorized table-of-contents speech information after it had increased the storage capacity of the voice memory shown in drawing 1 , when drawing 9 explained the record medium with table-of-contents information of the 2nd example concerning this invention are drawing having shown the record medium with table-of-contents information of the 2nd example concerning this invention.

[0041] The table-of-contents information record regenerative apparatus for creating the record medium with table-of-contents information of the 2nd example concerning this invention and the record medium with table-of-contents information of this 2nd example is explained using drawing 1 , drawing 8 , or drawing 10 .

[0042] As for the record medium with table-of-contents information of the 2nd example, the video tape (magnetic tape) T is applied as a record medium. Here, two or more child screen information and two or more speech information which were chosen as the PinP memory 32 and the voice memory 48 which increased storage capacity for every software are made to memorize using the table-of-contents information record regenerative apparatus 1 previously explained using drawing 1 , and it explains focusing on a different point from the 1st example.

[0043] As shown in drawing 1 and drawing 10 , in choosing each software P1 and P2 and the table-of-contents screen information corresponding to ..Pn from two or more software P1 and P2 recorded on the video tape T of the 2nd example, and ....Pn as table-of-contents information Three 1 field screen information Pn-Vn1, Pn</SUB>-Vn2, and Pn-Vn3 which can serve as table-of-contents screen information from one software Pn (n= 1, 2, ... n) are chosen for every software. These are compressed, respectively and the PinP memory 32 (32A-32C) is made to memorize as child screen information Pn-Kn1, Pn-Kn2, and Pn-Kn3. Here, as shown in drawing 8 , three PinP memory 32 per every field is prepared. Child screen information P1-K11 for the 1 field, P2-K21, ..Pn-Kn1 are memorized by PinP memory 32A of the 1st sheet by each software P1 and P2 and all that were chosen from ....Pn as the 1st. Child screen information P1-K12 for the 1 field, P2-K22, ..Pn-Kn2 are memorized by PinP memory 32B of the 2nd sheet by each software P1 and P2 and all that were chosen from ....Pn as the 2nd. Furthermore, child screen information P1-K13 for the 1 field,

P2-K23, ..Pn-Kn3 are memorized by PinP memory 32C of the 3rd sheet by each software P1 and P2 and all that were chosen from ....Pn as the 3rd.

[0044] On the other hand, in choosing each software P1 and P2 and the speech information corresponding to ..Pn from two or more software P1 and P2 recorded on the video tape T, ...Pn as table-of-contents information Table-of-contents speech information Pn-An1, Pn-An2, and Pn-An3 to which the metaphor chosen from one software Pn as table-of-contents screen information follows three 1 field screen information Pn-Vn1, Pn-Vn2, and Pn-Vn3 are chosen for [several seconds -] dozens of seconds. These table-of-contents speech information Pn-An1, Pn-An2, and Pn-An3 are memorized by three voice memory 48 (48A-48C) shown in drawing 9 . Each software P1 and P2, table-of-contents speech information P1-A11 which were chosen as the 1st of ....Pn, P2-A21, ..Pn-An1 also here to voice memory 48A Table-of-contents speech information P1-A12 chosen as the 2nd, P2-A22, ...Pn-An2 have memorized table-of-contents speech information P1-A13 chosen as voice memory 48B the 3rd, P2-A23, ..Pn-An3 to voice memory 48C, respectively.

[0045] In addition, two or more 1 field screen information Pn-Vn1, Pn-Vn2, and Pn-Vn3 which were chosen from one software Pn (n= 1, 2, ... n) may be chosen, looking at a scene suitably, or measure the die length of one software Pn, and also have the approach of dividing automatically and choosing.

[0046] The child screen information memorized by three PinP memory 32A-32C here based on the technical thought of the 1st example, While doubling the text 1 and 2 which shows a software number, and ....n and recording on the start edge mute section S0 of a video tape T as table-of-contents screen information By recording the table-of-contents speech information memorized by three voice memory 48A-48C together with table-of-contents screen information, the index information M02 of the whole is recorded in the sequence shown within the limit of drawing 10 . In the 2nd example of the above, since the multiple selection is made for every software P1 and P2 and ....Pn than the 1st example, more table-of-contents information is acquired.

[0047] Furthermore, drawing 1 and drawing 11 are used together and the record medium with table-of-contents information which transformed a part of 2nd example is explained simple. Drawing 11 is drawing having shown the record medium with table-of-contents information which transformed a part of 2nd example concerning this invention.

[0048] The child screen information memorized by three PinP memory 32A-32C as mentioned above in drawing 11 , While recording on the text 1 and 2 which shows a software number, and the part (or last part) which doubles ....n and each software P1

and P2 of a video tape T and ..Pn begin as table-of-contents screen information By also switching the speech information memorized by three voice memory 48A-48C together with table-of-contents screen information in order of software, and carrying out sequential record, the index information M12 and M22 of distributed and ....Mn2 are recorded in the sequence shown within the limit of drawing 11 .

[0049] The block diagram and drawing 13 which showed the table-of-contents information record regenerative apparatus for <3rd example> drawing 12 to create the record medium with table-of-contents information of the 3rd example concerning this invention are drawing having shown the record medium with table-of-contents information of the 3rd example concerning this invention.

[0050] The table-of-contents information record regenerative apparatus for creating the record medium with table-of-contents information of the 3rd example concerning this invention and the record medium with table-of-contents information of the 3rd example is explained using drawing 12 and drawing 13 . In addition, the same sign is attached and explained about the configuration member which achieves the same function as the configuration member explained previously, and a new sign is attached and explained only to a new configuration member.

[0051] In drawing 12 and drawing 13 , as for the record medium with table-of-contents information of the 3rd example, Videodisk D is applied as a record medium.

[0052] Generally Videodisk D is formed as a spiral truck which superimposes address information, screen information, and speech information, and consists of a pit train. The videodisk D of this 3rd example, rotating Videodisk D by the turntable motor 71 in the table-of-contents information record regenerative apparatus 70 Two or more software Pn (n= 1, 2, ... n) which moved the optical pickup 72 in the direction of a path of Videodisk D, and was recorded on Videodisk D can be recorded and/or reproduced. Under the present circumstances, the address which shows a track number shall be driven into the spiral truck. Moreover, let the die length of 1 FURUDO screen information along a truck be proper die length.

[0053] That is, an optical pickup 72 is reproduced and two or more software Pn (n= 1, 2, ... n) recorded on Videodisk D is divided into the address reversion system 75, the video reversion system 25, and the audio reversion system 45 by the separation circuit 74 through PB side contact 73b of SUITCHI 73, respectively. On the other hand, in order to record two or more software Pn on Videodisk D, a well-known magneto-optic recording etc. is adopted, the screen information of the video recording system 22 and the speech information of the audio recording system 42 are compounded in the synthetic circuit 76, and it is recording on the track number of the address specified

from the addressing section 77 by the optical pickup 72.

[0054] Therefore, with the equipment 70 for creating the videodisk D of the 3rd example, the creation means of the table-of-contents information following the video recording system 22 and the video reversion system 25, the audio recording system 42, and the audio reversion system 45 is completely the same as that of the equipment 1 for creating the video tape T of the 1st and 2nd example explained previously, and is recording table-of-contents information on Videodisk D by the optical pickup 72 here. In addition, the mute section for recording table-of-contents information on Videodisk D shall be created based on assignment of the addressing section 77.

[0055] Therefore, equipment 70 is used as shown in drawing 13 . The text 1 and 2 which shows child screen information P1-K1, P2-K2, ..Pn-Kn, and the software number for the 1 field by all from two or more software Pn (n= 1, 2, ... n) recorded on Videodisk D, ..n as table-of-contents screen information It is recorded on continuation near the lead-in groove (lead-out near [or]) of a videodisk for [dozens of seconds ·] several minutes. Switch A2 and ....Pn-An in order of software near the lead-in groove (head) of a videodisk, and every [during dozens of several second · seconds] sequential storage is carried out, respectively. on the other hand -- table-of-contents speech information P1-A1 for every software, and P2- In the sequence shown within the limit of drawing 13 , it cries [table-of-contents screen information and / table-of-contents] in one voice, and is recorded as index information M03 of the whole.

[0056] Furthermore, drawing 12 and drawing 14 are used together, and the record medium with table-of-contents information which transformed a part of 3rd example is explained simple. Drawing 14 is drawing having shown the record medium with table-of-contents information which transformed a part of 3rd example concerning this invention.

[0057] In drawing 12 and drawing 14 , the record medium with table-of-contents information which transformed a part of 3rd example also uses Videodisk D. It is characterized by distributing into each software P1 and P2 and the part (or last part) which ..Pn begins, respectively, and recording two or more software P1 and P2 recorded on this videodisk D, the index information M13 and M23 of distributed corresponding to ....Pn, ..Mn3 on it. Under the present circumstances, as the index information M13 and M23 of distributed and the contents of record of ....Mn3 were shown within the limit of drawing 14 The text 1 and 2 which shows child screen information P1-K1, P2-K2, ...Pn-Kn, and the software number for the 1 field in all, and ..n distribute [as table-of-contents screen information] for [several seconds ·] dozens of seconds, respectively into each software P1 and P2 and the part (or last part) which ..Pn begins,

and it is recorded. On the other hand Table-of-contents speech information P1-A1 which corresponds for every software, P2-A2, ...Pn-An are recorded for [several seconds -] dozens of seconds, respectively.

[0058] Although the table-of-contents information record regenerative apparatus 1 and 70 were used and explained with the record medium with table-of-contents information of the 1st explained in full detail above - the 3rd example in order to record table-of-contents screen information on record media, such as a video tape T and Videodisk D You may record combining the proper visual equipment for masters, without restricting to this. If such a visual equipment is used, it will also become possible to record the child screen information of 1 field unit without a field memory 29 and the PinP memory 32 in the state of an animation, and Furthermore, since it becomes possible naturally since child screen information can be made to memorize in the state of an animation if storage capacity of the PinP memory 32 is made into size to record child screen information on a record medium in the state of an animation therefore, child screen information is recordable in the state of an animation to the same chart lasting time as table-of-contents speech information. Moreover, although the record medium with table-of-contents information of the 1st - the 3rd example explained that record media, such as a video tape T or Videodisk D, began the index information of the whole, and it recorded on a part or the last part, even if software begins the index information of the whole and it records on proper locations, such as a part or the last part, there is also no trouble, without restricting to this. Furthermore, naturally record media, such as the video tape T which recorded table-of-contents information, and Videodisk D, are applied also to the record medium only for playbacks recorded according to the record mode of the 1st - the 3rd example.

[0059]

[Effect of the Invention] According to the record medium with table-of-contents information concerning this invention explained in full detail above, it sets to claim 1 publication. Since the index information of the whole table-of-contents screen information and that it cried [table-of-contents] with record media, such as a video tape or a videodisk, in one voice corresponding to two or more software by which sequential record was carried out was collectively recorded on the part which a record medium begins, or the last part When the record medium which recorded this index information of the whole is reproduced Since the contents of two or more software are put in block by the child screen information for the 1 field in all, and it can display on Monitor TV, and table-of-contents speech information switches in order of software and it is outputted from a loudspeaker, it becomes powerful table-of-contents information,

and in case a user chooses desired software, he becomes very convenient. Moreover, when the record medium which recorded the index information of the whole concerning this invention is reproduced, the contents of two or more software recorded on the record medium with reference to the index information of the whole can be grasped in a short time. Furthermore, the record medium which recorded the index information of the whole concerning this invention is reproducible with equipment without picture Inn picture memory, voice memory, etc.

[0060] Moreover, in claim 2 publication, it corresponds to two or more software by which sequential record was carried out at record media, such as a video tape or a videodisk. Since it distributed into the part which each software in a record medium begins, or the last part, respectively and the index information of distributed table-of-contents screen information and that it cried [table-of-contents] in one voice was recorded on it Since the index information of distributed following this ended software is immediately reproduced even when finishing reproducing desired software especially while being able to acquire the same effectiveness as claim 1 publication and abbreviation, it is very convenient in case the software of the next request is chosen. Moreover, even when the record medium is standing by the middle in the location, the index information of distributed on nearby can be reproduced immediately.

[0061] Furthermore, in claim 3 publication, since the text which shows a software number to each child screen of child screen information is added and it is recording on the record medium, it becomes convenient by the time of choosing the software of about [that the check of software sequence becomes easy], and a request.

[Translation done.]